The user-friendly app we construct mainly aims to satisfy the riders' needs on roller coaster riding selection and meet individual demands. The app mainly contains 3 aspects--- recommendation of roller coasters based on all the applied riders' experience on a global scale, the specific recommendation of roller coasters to individuals after the data processing and the analysis on the individual's past preference, and the selection of roller coasters by the filter to meet the users' needs. The roller coasters' own prosperities form the basic data base for the selection and recommendation, and the algorithm will help with the analyzing process.

To begin with, the app will ask for the individuals' personal information including the region they live in. Then it can first select the roller coasters from that region and make corresponding recommends. The registered riders will be required to rate the roller coasters they have rid after the thrilling experience, and each piece of information they record will be put in the data base for the analysis. To encourage the registered riders to make contribution to the data base, some rewards maybe provided. The question may involve the following aspects: the feeling after the ride, the degree of excitement and stimulation based on the individuals' experience, the rating of roller coaster as a whole, etc. All of these questions are the users subjective inputs, based on the rating they have given, we can use them as the training set in the XG Boosting algorithm mentioned above and use them to refresh the ranking of the roller coasters at every moment. In this way, the subjective information can be turned as input of quantitative analysis, improving the original model's accuracy and stability. At the same time, this ranking would be used to provide the new users with the top roller coasters and encourage them to experience the best ride.

The information provided constantly by one individual---the track record---can also provide useful information on the individual's own preference. The basic algorithm behind this function is try to determine the correlation of the riders' record and the roller coasters in the data base. To define the similarity between the historical data of the users and the roller coasters, we can set each data of the user or the roller coaster which the user has not rid yet as a row vector and calculate the correlation coefficients between the two. Then we can rank the roller coasters by the correlation coefficients from the largest one to the smallest one, recommending the one with the several largest correlation coefficients. We can also calculate the Mahalanobis distance between the row vectors previously mentioned and ranking as above, taking the advantage that the method does not take the dimension of the data into account. Based on the algorithm, the app can thus successfully achieve its second crucial function, and make the recommendation based on the quantitative analysis, spotting the users' need and saving the users' time for searching.

The app could also set up a selecting system to meet the riders' special needs. The system will be much like a search engine but it will be entirely based on the property of the roller coasters. To make the sifting process more user-friendly, the options for the potential riders to choose will not include specific numbers. For instance, if the potential rider want to select a roller coaster with longer duration time, the search engine will not require them to put in specific numbers, but only choose from different levels such as short(30-60sec), medium(60-120sec),and long(>120sec). Different selecting options will thus minimize the number of roller coasters based on the rider's demand and correspondingly make the proper recommendation.

Besides from the main purposes, auxiliary functions may also be included. First, a community will be set up to let the riders share their own riding experience, which may boost their sense of belonging with others who also like roller-coaster riding. They may even find the app useful as it can allow them to make friends with those who share the same interest with them. Besides, basic information of the roller coaster sites around the global will be provided, in the form of both pictures and videos to give the potential riders a real sense of spectacularity, and every rider is welcomed to write their own experience and comments. For those especially love the thrilling feeling, they can also keep a journal in this app, and write down anything they want to recall about every one of their stimulating experience. Furthermore, up-to-date news about the roller coasters around the world will be timely reported by converging the information online, capturing the riders interest and promote them to have a try. Some related commercial products like key chains and post cards could also be provided after the cooperation with certain entertainment companies.

In brief, the app we construct will use the algorithm and quantitative analysis to meet the potential riders' needs and help them decide the best option, guaranteeing them a satisfying and enjoyable experience.